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1014

BETTER FRUIT

VOLUME XVI

JULY, 1921

NUMBER 1

BETTER FRUIT
Publishers of
BETTER FRUIT
Company

Fifteen Years' Service to the
Fruit Industry of the Northwest

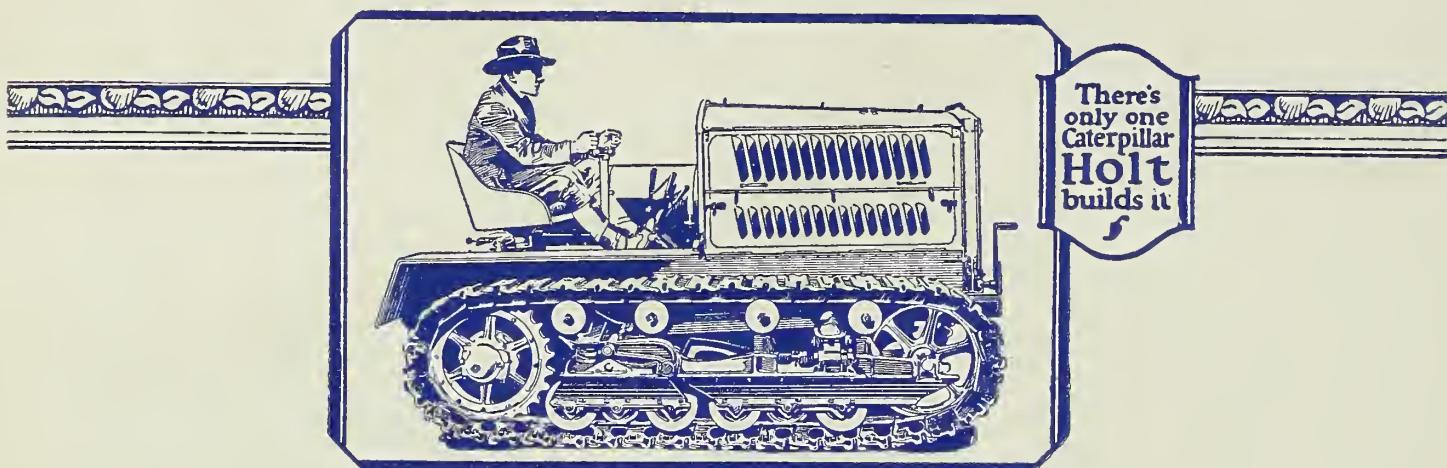


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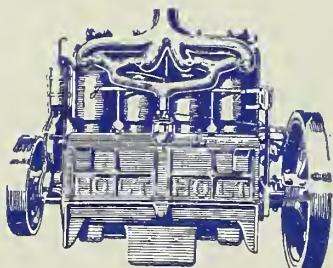
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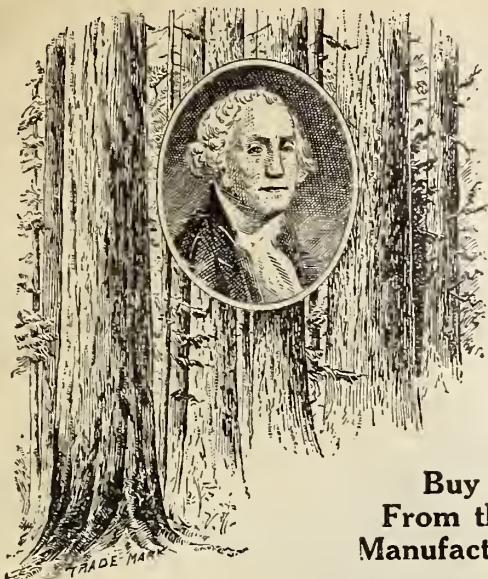
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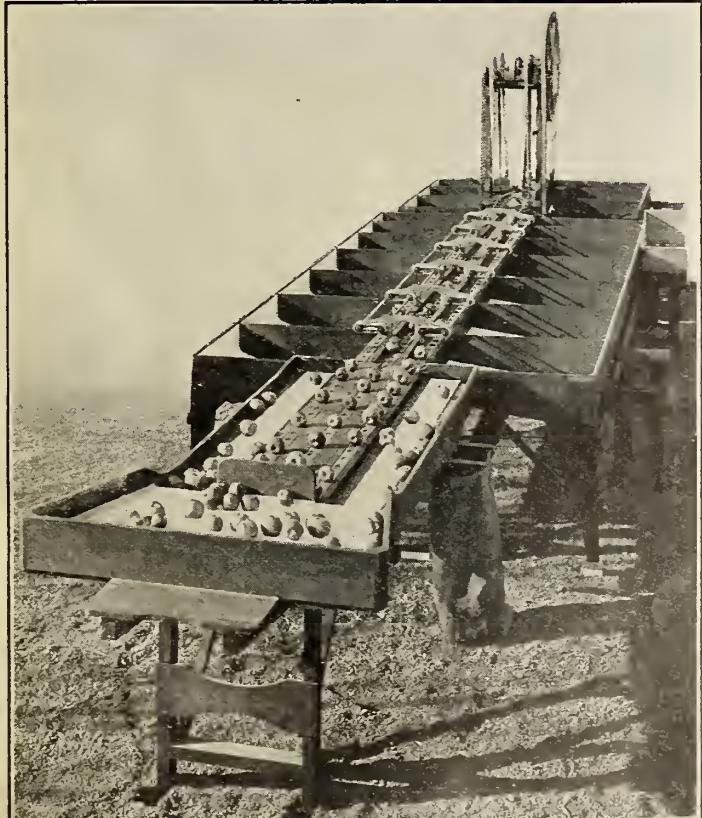
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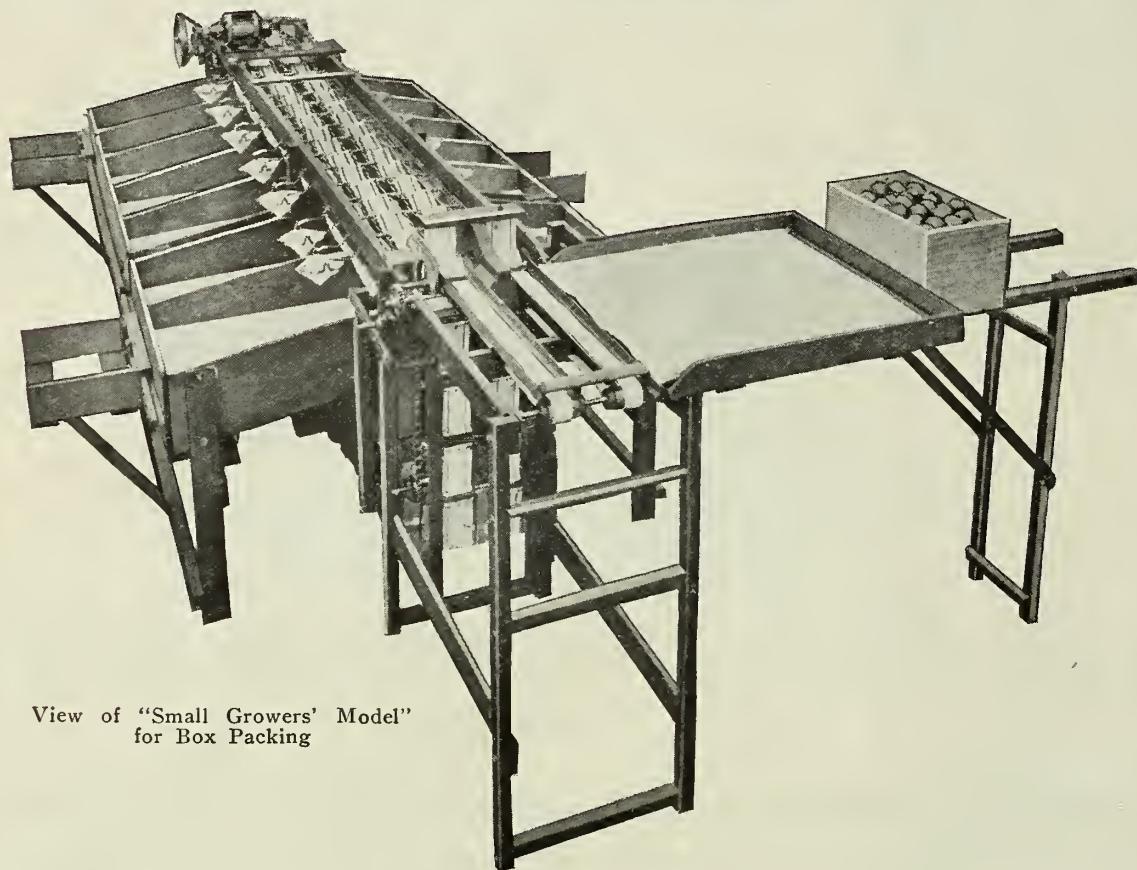
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View of "Small Growers' Model"
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BETTER FRUIT

Pioneer Horticultural Journal of the Pacific Northwest

Entered as second-class matter April 22, 1918, at the Postoffice at Portland, Oregon, under act of Congress of March 3, 1879

VOLUME XVI

PORLTAND, OREGON, JULY, 1921

NUMBER 1

Fifteen Years With the Fruit Growers

By Charles I. Moody of BETTER FRUIT

WHAT is the future of the box fruit industry in the Northwest? Could one but look ahead with prophetic eye, and see what is in store for us, he would be much sought after, for this question is the paramount one to all fruit growers.

Man will suffer much, will bear much, and will hold to the line when ultimate success is guaranteed, but it takes a big man of strong character to carry on in the face of disappointment and uncertainty. When good prices are promised it is not hard to apply every recommended spray, to cultivate and fertilize intensively, and to thin adequately, all for the production of fine and abundant fruit, which will return big profits. But the lean years. There's the rub. There is a general let down after one such, and when several follow one another, planting of new orchards ceases and care of bearing trees seems not worth while. Then comes the real test of one's faith in the future of one's chosen industry.

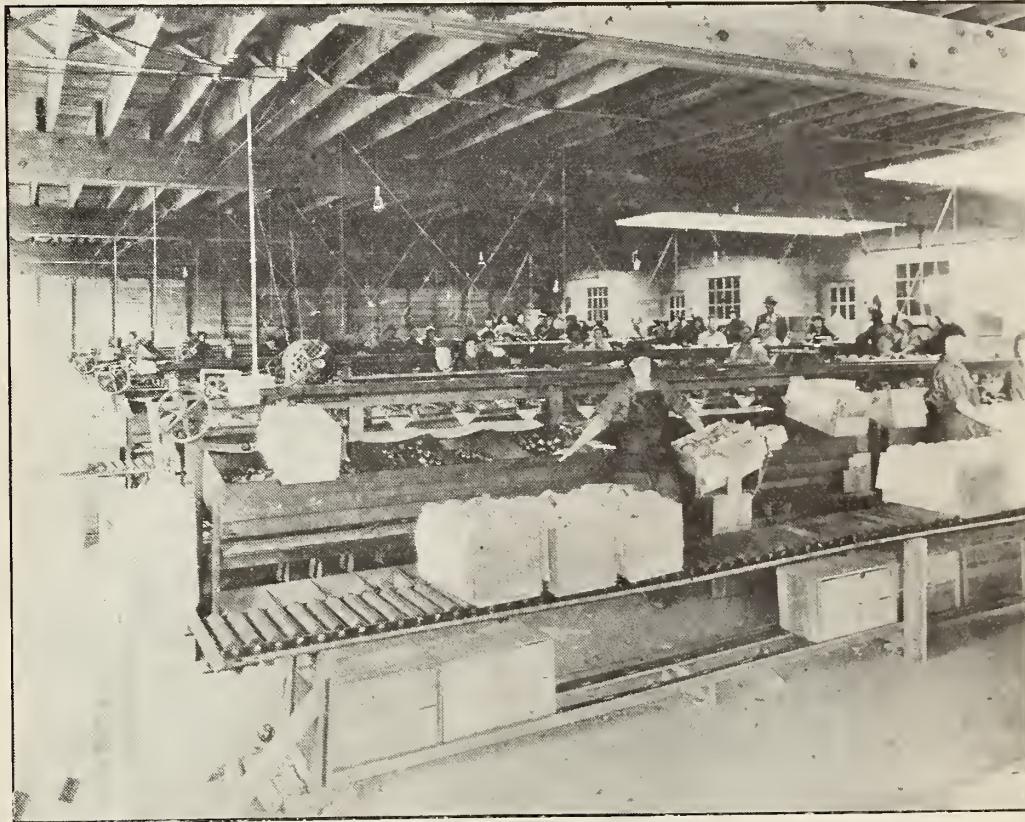
All this you may say is far from the subject of the title of this article, but the reverse is true, for the past and future of any industry are linked irrefutably. The future of today is tomorrow's past. A short resume of the past fifteen years, practically the life of our Northwest box fruit industry, may be of interest and profit in attempting to draw therefrom conclusions as to the future, which is the real concern of us all.

Many growers have pet theories on co-operative selling and buying,

on independent shipping, on the best way to assure proper distribution, and of course, how the sales manager *should* have sold last year's crop.

Unfortunately very few growers have any real comprehensive idea of the ramifications surrounding

ized for profit, and at the bottom of the fall of practically all, has been lack of confidence, not by any means always justified, but rather bred of ignorance of conditions on the part of the members. Probably the first growers' association was the original Hood River Fruit



Scene in typical apple packing-house showing four big, motor driven grading machines and practical application of gravity conveyor. This unit can turn out an average of 4000 boxes a day easily.

the disposition of several million boxes of fruit. This very ignorance of selling and market conditions (which too many association heads seem to foster in their members), is the rock-bound coast upon which the staunchest co-operative craft have come to grief.

During the past fifteen years there have risen and fallen dozens of marketing organizations throughout the Northwest, some purely co-operative, some organ-

Growers' Union, purely co-operative, formed about 1892 to handle only strawberries.

Since then, and particularly throughout the fifteen years just past, there have sprung up a multitude of marketing associations, most of them for, of and by the growers, with kaleidoscopic reorganizations of the same.

The first car lot shipment of packed and wrapped apples to leave the Northwest was shipped by the

Davidson Fruit Company from Hood River in 1898, to Scobel & Day, New York City, and was a solid car of Spitzenburgs.

Since then thousands of cars of fruit have followed that daring lead Eastward, even as thousands of sturdy sons, attracted by the wonders of the Northwest, have flowed in the opposite direction. In 1905 E. H. Shepherd, founder and owner of BETTER FRUIT until his death in 1916, was manager of the Hood River Apple Growers' Union.

In 1906 the millennium presumably had come to the fruit industry in the formation of the Northwestern Fruit Exchange at Seattle. This organization was formed to whip into line every association in the Pacific Northwest, to act simply as a clearing house, or sales head for them. Each district association was to retain its individuality in everything but sales. Practically all of the marketing associations in the field went in, but during the next year dissension crept in, and the toboggan of secession commenced, which in a few years was the ruination of this first attempt at Northwest unity in marketing.

From then on, as new districts were opened up, thousands of acres

planted to trees, and the real development of the Northwest fruit industry fell into its stride, district associations were formed by the dozen.

The Yakima County Horticultural Union came into being, as the first growers' organization in Yakima. It was purely co-operative. In 1911, and again in 1917 it passed through reorganization. Today it is functioning as the Yakima Fruit Growers' Association, and is still co-operative.

Throughout the Rogue River, Willamette and Spokane Valleys, the Wenatchee and Puyallup districts, the Bitter Root valley in Montana, and the Boise, Payette and other districts in Idaho, the seed of some sort of co-operation in selling was germinating, fertilized by reports of the strength and success of the Citrus Growers' Association of California, perhaps the strongest association of its kind in the country.

In 1912 Hood River answered the call, when all local selling organizations and all independent shippers joined forces within the then existing Apple Growers' Union.

For four or five years this situation held, when dissention and mis-

understanding finally prevailed, and certain of the organizations and independents dropped out, leaving within the union approximately sixty-five per cent of the valley's tonnage. This organization is functioning today as the Hood River Apple Growers' Association, and is still co-operative.

In 1913 another effort was made for territorial unity, in the formation of the North Pacific Fruit Distributors, with head offices in Spokane, a purely co-operative organization for the marketing of Northwest fruits from all sections. It was recognized as the exclusive sales agent for the following districts: Yakima Valley Fruit Growers' Association, North Yakima, Washington; Apple Growers' Association, Hood River, Oregon; Idaho-Oregon Fruit Growers Association, Payette, Idaho; Walla Walla District Fruit Distributors, Walla Walla, Washington; Montana Fruit District, Hamilton, Montana; Spokane Fruit Growers' Company, Spokane, Washington; Central Idaho-Washington Fruit Growers' Association, Garfield, Washington; and the Wenatchee North Central Fruit Distributors, Wenatchee, Washington.

This apparently strong and ideal



The finished product—the consummation of years of eternally keeping at it, and holding one's faith in the ultimate outcome

combination came after many years of travail, and lasted until 1917.

The Oregon Growers' Co-operative Association was formed at Salem, Oregon in 1919, and has done much to unify the Willamette Valley fruit and berry growers. It also operates extensively at Medford, The Dalles and other points within the state.

There are many problems for us to solve today, and new ones will present themselves as our distribution broadens, as it surely will, to take in the rich and absorbent markets of South America and the Orient and the furthermost countries of Europe.

The immensity of the Pacific Coast fruit industry today, with an annual production of more than 100,000 carloads, or approximately 57,000,000 boxes, is such that those in control of its movement are worthy of cultivation by our great public carriers, both rail and water.

When the Panama Canal, possibly the greatest monument in the world to American resourcefulness and brains, was nearing completion, our Northwest fruit growers were promised an economical and adequate transportation service to the Atlantic seaboard and England. Not until last year, however, was it ever even tried out commercially, when the Earl Fruit Company loaded 30,000 boxes of apples on the refrigerator ship *Kinderdyck* for London and Liverpool. Two other ships were loaded from the Northwest for foreign ports also. Instantly upon reports of the success of these shipments, however, it became the "big stick" raised against the railroads for the lowering of their rates. The railroads cannot afford to permit any considerable tonnage to go to the Canal, for they realize the difficulty in diverting it to themselves another year.

Already the North Pacific Coast Line has been formed, affording a joint service of the Royal Mail Steam Packet Company and the Holland-America Line. They offer a fast freight service between Pacific Coast ports and England, Holland and Germany, all their

steamers being equipped with refrigerators to handle fresh fruits and other perishable commodities in commercial quantities.

There are too many of our growers, unfortunately, who are deep in the rut of routine, too busy all day and too tired when night comes to do more than scan newspaper headlines and then tumble into bed. Day after day, they perform the round of seasonable tasks in a more or less mechanical way. They will tell you that they know how to prune, how to spray, how to thin, and have packed more apples than you have ever seen; that they used to read their fruit magazine and federal bulletins before they



Mr. Shepard was not only an able editor and entertaining companion, but he knew how to grow fine fruit as well.

learned it all, but not now. These wiseacres have lost absolutely the broad vision with which they entered the game, and are narrowed down to a hum-drum and deadly existence. There have been many lean years 'tis true, enough to try men's souls to the breaking point, but it's coming back, so let us awake to a future infinitely greater than the rosiest era of the past, and come to some realization of the big things developing in our industry.

There are too many millions of dollars invested, too many big and able men in the game to permit of anything but progression. Last year our growers found many reasons besides the failure of their association to market wisely for low returns. High harvesting costs and

high prices of boxes and other materials, together with excessive freight rates, were held responsible.

There was another cause, however, and probably nearer the true cause than any of the others mentioned, though naturally they contributed. The annual report of one of our strongest marketing associations shows that of the entire tonnage handled by it in 1920 only 44 per cent was Extra Fancy, 36 per cent Fancy and 20 per cent C-Grade, whereas the averages for the three years previous were Extra Fancy 52 per cent, Fancy 32 per cent and C-Grade 16 per cent. The report shows further a decrease in the size of the fruit grown, as follows: 1920, 4-tier 40 per cent, 4½-tier 35 per cent, 5-tier 25 per cent. Averages for the three preceding years were: 4-tier 54 per cent, 4½-tier 30 per cent and 5-tier slightly over 16 per cent. With only 44 boxes Extra Fancy, out of 100 packed, and only 40 per cent of those, or 17.6 boxes of 4-tier, surely we can read the answer.

A let-up in spraying, failure to adequately thin, passing up the necessary feeding of the trees through fertilization and then, in natural sequence, a low grade crop of small fruit.

A preponderance of Extra Fancy fruit, of large size, such as we used to grow and still can, will always return a profit.

The struggle has been and still is for a perfect selling plan. Co-operation has, it is true, been much misused and abused, yet the success of the future marketing of fruits lies in true co-operative selling.

To too many people, however, co-operation is the act of some individual or association helping them solve their troubles but asking nothing in return, whereas true co-operation means work on the part of all concerned for a common end.

Let there be a franker understanding on the part of the members of our marketing associations of the countless hair-trigger decisions the sales manager is called upon to make, with an equal chance

(Concluded on page 21)

The Value of Thinning

By Clayton L. Long, Extension Horticulturist, Oregon Agricultural College

THINNING apples in the early summer will do more to increase the size and color of the fruit and the total value of the crop than any other operation supplementary to common orchard practices. It is also the most satisfactory as well as profitable way to prevent loss of branches from breakage on trees bearing full crops. Although it will not increase the vigor of the tree, it will be a very important factor in maintaining that which the tree already has.

The activity of an apple tree, whether for fruit-bud formation, fruit production or growth is controlled largely by the relationship of the raw food materials as furnished by its environment and utilized by itself. The soil furnishes the moisture and "soil foods" and the atmosphere furnishes the "air foods." If the rainfall is ample or irrigation practiced, the soil properly drained yet capable of holding moisture, and excessive evaporation prevented by proper cultivation or mulching, the soil moisture will not be the limiting factor. If these conditions are not right, and a uniform moisture supply is not available during the growing season, this is where our first attention is needed.

If the soil needs draining, this should come first and nothing else can take its place. If it will not retain enough water to mature the crop, organic matter should be incorporated and other means of increasing the water holding capacity of the soil practiced. If these corrections, together with prevention of evaporation from the surface soil, do not supply the tree with a sufficient supply of moisture, a condition often met in unirrigated, semi-arid sections, nothing can be done other than that of reducing the top of the tree by pruning to fit this shortage.

After this moisture supply is made to fit the tree or the tree to fit the moisture, our next step is to properly balance the two groups of foods, the soil foods and the air foods, to bring about such activity of the tree as is desired. If the soil is thin or worn out, which usually means low in organic matter, the soil foods may be the limiting factor and should be given next consideration. Annual application of nitrogen will be a temporary remedy, but the incorporation of organic matter, by plowing down straw, rough manure, cover crops, etc., are necessary in any long time solution of this soil problem. The nitrogen of the soil, which is the limiting factor in the group of soil foods, is carried in the organic matter of the soil and can be maintained only by

annual contributions of organic matter forming materials. The growing of catch crops should be an annual practice in cultivated orchards.

THE "air foods" are abundant in proportion to the area of leaf surface of the tree, together with the strength of the light playing upon this leaf surface. These foods may be the limiting factor where the soil is extremely fertile or the orchardist a heavy pruner or where a combination of the two exist. In this case the remedy would be a slowing up of the pruning, excepting a light thinning out in very dense trees, and a withdrawal of all nitrogenous fertilizers, manures and leguminous cover-crops. In other words let the tree accumulate a larger leaf surface and do not add nitrogen to the soil. This condition is seldom met in mature trees as their usual lack of vitality shows. Most mature trees would be more productive of profits if their vigor was considerably increased.

Thinning of the fruit becomes necessary whenever the activity of the tree is too largely consumed in the formation of fruit buds and the production of fruit at the expense of wood growth, a condition brought about by an over supply of air foods as compared to the soil foods. The young, vigorous tree comes into partial bearing, then into full bearing and finally over-bears before it is forced into the habit of alternate bearing. A tree that overbears is under-vigorous and carries a large number of very slow-growing fruit spurs that seldom bloom and when they do bloom never set fruit, another large number that bloom and bear and very few that are vigorous, making a good growth, that do not bloom.

Practically all apple trees that are consistent annual bearers have 25 per cent or more of their fruit spurs too vigorous each year to form fruit buds. This will insure enough vigor in the tree as a whole to make a good annual growth with a good number of new spurs forming fruit buds on the one year old wood. This condition cannot be brought about in over-bearing trees by thinning the fruit, no matter how severe the treatment. The trouble is more deeply seated than this year's crop of fruit. It is an unbalanced relationship of the "soil foods" and the "air foods" with the latter greatly predominating. This unbalanced condition may be of short or long standing, but continually growing worse as the natural tendency of the tree is to increase rather than to diminish it.

In fact this plight may become so extreme that the tree will get beyond this alternate bearing stage to a seldom bearing or even to a never bearing stage. Artificial means that tend to increase the "soil foods" and decrease the "air foods" must be used

and used strenuously. The natural tendency of the tree must be overcome, the unbalanced relationship of these two groups of foods must be rectified and the accumulation of the over-abundant "air foods" of previous years must be matched. The combined influence of pruning, fertilizing, cultivating and cover-cropping (or mulching), and thinning at their very best will be required to get this tree out of its alternate bearing habit back into the proper stage of vigor.

It will be a much harder task to get old trees out of their alternate bearing habit than it will be to keep young, vigorous trees from getting into it. In either case the tendency of the tree will have to be fought against annually.

THE effects of thinning may be a big factor in keeping young, vigorous trees from forming the alternate bearing habit, but it is not enough to get trees with the habit established back into annual bearing. It will help to conserve the vigor already there, but it will not instill new vitality into the tree. *The greatest benefit from thinning will be on this year's fruit.* It will pay big dividends on the increased size and color of the fruit and continue to pay for years to come on the branches saved from the breaking that so often takes place in heavily loaded trees. Time will be saved in the picking, grading and packing of the crop equal at least to that required for thinning.

The most economical time to do this thinning is immediately after the June drop, after nature has done her thinning. At this time most of the apples left will mature and one need not hesitate to do all necessary thinning at one time. It is far cheaper to remove all surplus fruit the first time over the trees, than it is to make two or more thinnings. In practice all imperfect fruit should be removed. Each cluster should be reduced to not more than one fruit and then enough others removed until those remaining are at a desirable distance apart. Variety as well as vigor of the tree should be considered in determining the right distance apart to leave the fruit. On vigorous trees the smaller varieties will net most if left six or seven inches apart while eight or ten is none too far for the large varieties. These distances should be increased an inch or two whenever the tree shows lack of vigor.

The time required to do this work will vary with the size of the tree, as well as set of fruit. Trees capable of bearing three or four boxes of marketable fruit will require about one-half hour, those equal to ten boxes in the neighborhood of one hour

(Concluded on page 16)

Transportation Problems of the West

By C. De Vere Fairchild of Yakima, Secretary Deciduous Bureau, Pacific Coast Producers' and Shippers' Association

I MAINTAIN that Wenatchee, Yakima, Seattle—Washington, Oregon and California are merely the names of certain geographical locations and that the existence of these names should not in the slightest degree lessen our interest in each other. We are associates in the fullest sense of the word and actuated by this spirit of unity, we are going to successfully solve one of the most stupendous problems confronting the fruit grower and all other interests of the Pacific Coast—the efficient and economical transportation of western fruit to the markets of the world.

The capital invested in the fruit industry of the Pacific Coast is in excess of \$300,000,000, and the annual production exceeds 100,000 carloads, or approximately 57,000,000 boxes; consisting principally of apples, pears, oranges and lemons. These figures convey some idea of the magnitude of the problem of distribution and the importance of efficiency and economy in transportation. This is further exemplified in the statement that the mere saving of 10 cents a box means a total of \$5,700,000.

This tremendous industry is however still in its infancy, large areas suitable to the production of the highest quality of fruit can yet be brought under irrigation and for many years to come the grower can keep pace with an increased demand. The production of fruit on the Pacific Coast therefore for many years to come will be regulated by demand, and demand in turn is largely controlled by the cost and efficiency of transportation.

Apples shipped from the Pacific Northwest enjoy a wider distribution than any other commodity shipped from one section. In addition to the distribution to over 2,500 cities and towns in the United States a large export trade is being developed to Europe, Asia, Africa, Australasia, South America, Canada and Cuba and now that Mexico is showing signs of peaceful endeavor, possibly its sixteen million inhabitants can be persuaded to join the ranks of the consumers of western fruits.

WITH the exception of a few varieties, which constitute a negligible percentage of the total production, all of our apples with proper refrigeration facilities can be distributed to the markets of the world; some varieties require prompt shipment, other varieties can be held in cold storage for a period of seven months and then be safely transported to Europe. This makes possible a shipping season of eight months.

During the coming season we hope to make a shipment of 40,000 boxes of Bartlett pears from Seattle to England, and it is confidently expected that the condition of these pears upon arrival will permit of extended distribution.

The export trade presents unlimited possibilities; the installation of refrigeration on vessels engaged in general cargo traffic ample to meet the possibilities of the trade at port of entry and tributary territory will revolutionize this outlet for western fruit;

land via the Panama Canal. The American Agriculture Trade Commissioner at London reports that the fruit on both vessels arrived in excellent condition."

In speaking of this venture, the Department of Agriculture says the enterprise of the Pacific Coast Shippers is commendable in every respect. Most of the apples in the consignment were C grade because northwestern shippers were naturally somewhat cautious about placing their best apples in an experimental shipment. However, gratifying results obtained will encourage them to ship only the highest grade to the British markets in the future.

The fruit on the steamship *Eemdyk* reached Southampton in the latter part of November and went on sale the day after arrival. Deliveries were made throughout the United Kingdom within 24 hours, a notable achievement on the part of the auctioneers and the London & Southwestern Railway Company. A representative set of buyers from England and Scotland attended the sale, and many lots were disposed of.

The trade commissioner calls attention to the fact that in spite of the long trip there were less than 180 slight breakages in a shipment of over 30,000 boxes. These breakages were so slight that they were easily remedied by putting in a few extra nails. Though the prices received for this fruit at Southampton were less than the prevailing prices of the markets farther north, it must be remembered that the cargo contained a great deal of C grade fruit, which is an important factor in accounting for the low prices received.

THE fruit on the steamship *Kinderdyk*, which arrived in London on December 16, was also in excellent condition. The apples were most carefully stowed and were held in position with wooden dunnage nailed along the tops of the boxes. It was declared by a specialist in refrigeration and transportation of the United States Department of Agriculture, now in London, that the apple cargo of the *Kinderdyk* was intact, showing scarcely any evidence of shifting or breakage, and was in remarkably fine condition. Both the steamship company and the Pacific Coast loaders are to be congratulated on the success of these two shipments.

As stated in the preceding report, the success of these experimental shipments is due in large measure to the modern and efficient facilities which the citizens of King county have wisely provided, to the care and diligence of the dock authorities and steamship representatives, and reflect great credit to the officials connected with the Port of Seattle.

While the possibilities of export trade
(Continued on page 20)

If the Pacific Coast is to realize the maximum benefits from the great fruit industry, which already represents a capital investment of more than \$300,000,000 in this section, closer co-operation between individuals, communities and states is necessary, in the opinion of C. de Vere Fairchild, Yakima grower, who was one of the Washington representatives at the recent Pacific Coast conference of fruit growers and shippers held in Seattle. At the conference the Pacific Coast Producers' and Shippers' Association was organized to provide water transportation from the Pacific to the Atlantic for thousands of tons of fruit which the railroads cannot now handle economically or efficiently.

in many centers it will increase consumption more than ten fold; in others, where western fruit is practically unknown today, a flourishing trade can be developed. To illustrate this statement, a friend of mine operating a newspaper in Toyko, some time ago wrote me as follows:

"I am satisfied that a large quantity of Pacific Coast pears could be disposed of among the upper class of Japanese provided you had some way of delivering the fruit here in perfect condition."

Hundreds of foreign markets that are capable of consuming tremendous quantities of western fruit are lying dormant waiting for American initiative to equip vessels with proper refrigeration so that western fruit may be delivered to the furthest corners of the earth with practically no deterioration in transit.

These statements of water transportation possibilities are based on the actual results of certain shipments from Seattle, the official report of which is as follows:

WASHINGTON, D. C., Feb. 4.— Considerable interest has been manifested in the results of the venture of Pacific Coast apple growers in shipping apples from points on the Pacific direct to Eng-

The Honey Situation

By E. H. Tucker, Economic Statistician, First National Bank of Los Angeles and Los Angeles Trust & Savings Bank

IT IS ONLY recently that the honey industry has become a specialized important industry in the United States. This development has taken place almost entirely in the State of California and is to a great extent the result of the activity of co-operative marketing associations.

Heretofore, statistics as to honey production and consumption in the United States have been almost negligible, because of the fact that the production of honey was maintained as a side-line by the average agriculturist. The development of the honey industry upon a scientific commercial basis has created the necessity for accurate information as to honey production and for a careful scientific analysis of the honey situation.

California produces approximately 15 per cent of the honey produced in the United States of America. Iowa is the second state, producing 6 per cent of the entire crop of the United States. New York, Illinois, Michigan and Wisconsin each produce approximately 4 per cent, and Pennsylvania, Georgia, Florida, Ohio, Indiana, Missouri and Colorado 3 per cent. No other state produces more than 2 per cent of the entire honey supply of the United States.

California alone markets the major proportion of its honey production outside of the state in which it is produced. As a general rule from 70 per cent to 90 per cent of the commercial honey produced in California is marketed outside of the state and from one-third to one-half of the honey marketed outside of the state in which produced is California honey.

Careful estimates as to commercial honey production in California during the past 20 years are given below:

Year	Pounds
1900	2,208,000
1901	8,112,000
1902	5,125,000
1903	8,400,000
1904	1,040,000
1905	10,000,000
1906	4,510,000
1907	7,120,000
1908	4,524,000
1909	11,532,000
1910	4,080,000
1911	9,500,000
1912	4,710,000
1913	3,720,000
1914	7,950,000
1915	9,360,000
1916	8,100,000
1917	6,500,000

1918	5,500,000
1919	6,350,000
1920 (not final)	9,500,000

It is impossible to secure accurate figures as to total honey produced in the United States of America. However, the chief of the field service of the Department of Agriculture estimates that 180,000,000 pounds will approximate the total honey production in the United States during 1916, and states that it is his belief that these figures are within 10 per cent of the actual production. Upon this basis it is

three forms in which honey enters the commercial market. Next in importance to extracted honey is comb honey and there is a small amount of chunk honey sold upon the market. By chunk honey is meant that honey which is sold in the form in which it is taken from the hive, wax and honey being intermingled.

Practically all of the honey now produced in California is extracted honey. In 1916, 81 per cent of the California commercial production was sold in such form. In 1917, 82 per cent; in 1918, 90 per cent; in 1919, 97 per cent, and in 1920,



estimated that the total production for the United States was about 150,000,000 pounds in 1917, 180,000,000 pounds in 1918, 210,000,000 pounds in 1919 and 250,000,000 pounds in 1920. It may be, however that the 1920 production of honey in the United States totaled as much as 300,000,000 pounds. This is the estimate made by Dr. E. F. Phillip, epiculturist of the Bureau of Entomology.

COMMERCIAL honey is produced almost exclusively in the form of extracted, or bulk honey, although there are

96 per cent. In the United States approximately 55 per cent to 60 per cent of all honey produced is sold as extracted honey. Comb honey is relatively unimportant in California, production of such honey in 1920 amounting to only 2 per cent of the total amount of honey produced in the state. This is the result of the gradual change to extracted honey, as in 1916 approximately 18 per cent of California honey was sold as comb honey.

The production of comb honey is exceptionally difficult and its lasting qualities are such that it is hard to market comb

honey outside of the state in which it is produced. As a consequence, the bulk of the comb honey sold in the United States is that produced and sold locally in various Eastern states. In 1916 and 1917, 38 per cent of all the honey produced in the United States was produced in the form of comb honey. In 1918 the percentage was 31 per cent and in 1919 and 1920, 30.5 per cent.

Approximately 10 per cent of the honey produced in the United States is sold as chunk honey. In California only from one to two per cent of all honey produced is sold in this form.

The principal markets for honey moving through the regular channels of trade are reported as Medina, Ohio; Cincinnati, New York City, Chicago, Kansas City, Philadelphia and Boston. It is estimated, however, that approximately 90 per cent of the honey produced in the country, with the exception of the California production, does not get 25 miles from the home of the honey producer.

In the past the markets for commercially produced honey have been, to a great extent, foreign markets. In 1919 there were 9,105,362 pounds of honey exported from the United States. The principal importing countries were the United Kingdom, which imported 2,882,951 pounds; France, which imported 1,129,704 pounds; Sweden, which imported 1,128,152 pounds; Belgium, which imported 922,008 pounds; The Netherlands, which imported 690,595 pounds; Denmark, which imported 417,492 pounds; and Canada, which imported 297,414 pounds. While these exportations to foreign countries during 1919 were slightly larger than normal exportations, because of the sugar shortage, they may nevertheless be taken as indicative of the proportion of American produced honey formerly absorbed by foreign markets.

AT present, these markets are being definitely closed to United States honey producers. In 1920 there were only 1,539,725 pounds of honey exported from the United States of America, almost 50 per cent less than total exportations to Great Britain during 1919 and approximately 83 per cent less than total exportations during 1919.

Several factors are closing these foreign markets to American honey producers. The first of these is the depreciation in foreign exchanges, which is making it exceptionally difficult for foreign countries to purchase American produced goods. This situation may be only temporary and the organization of the new \$100,000,000 Foreign Trade Financing Corporation may materially assist in stabilizing exchanges.

The other factor which is closing foreign markets to American productions is probably permanent. Throughout the world, companies are being formed to further honey production. Cheap labor costs, and inferior

methods in handling honey will probably assure these corporations a comparative monopoly on foreign honey markets.

The situation is made doubly serious by the fact that many of these companies are formed with the express purpose of exploiting United States markets. They are shipping quantities of extracted honey into the New York market. This honey, it is alleged, is sometimes shipped into the United States in containers, consisting of previously used casks, barrels, and even five gallon oil cans. This imported honey is not always produced under sanitary conditions and may even contain bacilli larvae, which are germs of a very contagious disease, similar in seriousness to the boll weevil in the cotton industry. Consequently, efforts are being made to secure an emergency protective tariff of not less than 5 cents per pound upon every pound of honey imported into the United States from foreign markets. The purpose of this tariff is not only

NOTICE NURSERYMEN

Nursery licenses expire June 30th. The law requires renewals each year, July 1st, by payment of the annual license fee of \$5.00 and filing a bond in the sum of \$1,000.00. Only surety company bonds will be accepted by the Director of Agriculture.

Nursery agents' licenses must also be renewed July 1st. The fee for each agent's license is \$1.00.

to protect United States honey from competition with foreign honey, but is also to protect the honey industry from possible inroads which these larvae might make upon the bee of the United States, if importation is permitted to continue. A movement to require rigid inspection of imported honey and rejection of any honey containing injurious larvae could do much to correct this evil, but present attempts by producers seem to be directed toward efforts to secure tariff protection.

The United States honey industry is today definitely faced with the fact that it must rely almost entirely upon domestic markets in the future. In the past it has been the custom to market domestically produced honey in five-gallon cans, containing sixty pounds of extracted honey. As a general rule two of these cans form a case. A considerable proportion of this honey was retailed direct from the can into containers belonging to the consumers.

The baking trade in the United States has used large proportions of the United States produced honey in preference to sugar, because it permits the holding of a certain proportion of moisture in baked goods. As commercial baked goods tend to dry and chip easily if sugar is used, honey is considered superior for sweetening purposes.

IN ORDER to better exploit local markets a new means of marketing honey is fast gaining in favor in the United States and is being pushed by co-operative honey associa-

tions in California. Honey is being put up for the retail trade in one pound, two and a half pounds, five-pound and ten-pound friction-top cans, and in eight-ounce and sixteen-ounce glasses. These containers carry a label showing the name of the canning company and the source of the honey, so that its cleanliness can be vouched for. Active steps are being taken to develop larger home markets for this new form of honey. The food value of honey is unquestioned, as it contains 1485 heat calories per pound.

High railroad freight rates are interfering with the marketing of California produced honey, and active steps are being taken to secure a reduction in these rates so that California honey can enter the Eastern markets of the United States. With the development of water transportation, through the Panama Canal, it is anticipated that increasing amounts of California honey can enter Eastern markets at cheaper transportation costs. It is being found that co-operative marketing of honey, as at present carried on in California, is reducing the cost of marketing honey by several cents per pound, thereby assisting in profitable marketing. The California Honey Producers' Co-operative Exchange, with head offices in Los Angeles, markets the honey of approximately 85 per cent of the California commercial producers.

The problems which the honey industry of the United States, and particularly of California, are faced today are, therefore, three-fold. The first is the securing of an effective means of excluding any infected foreign honey, the second is a reduction in freight rates to Eastern markets, the third is the preparation of honey in more marketable forms and the development of larger consumption in the United States. The first of these problems will require Congressional action. The solution of the second will be made easier through the development of water transportation through the Panama Canal and the ready response which is being made in retail markets to the new forms of marketing honey will go a long way in solving the third problem.

Honey prices have dropped materially in the past year, because of general readjustment and because of the closing of foreign markets. While in 1918 and 1919 and the earlier part of 1920 the prices for the better grades of California honey in Los Angeles markets ranged between 18 cents and 23 cents. These prices have now dropped to as low as 12 cents and 13 cents. Predictions as to future honey prices can not be made with any accuracy today, but indications are that with the development of new domestic markets the excess honey formerly shipped to foreign countries will tend to be absorbed in the United States.

A poor spraying equipment makes control difficult. No more spray rods or guns should be used than the outfit will support and still maintain a good reserve without overtaxing the engine or pump.

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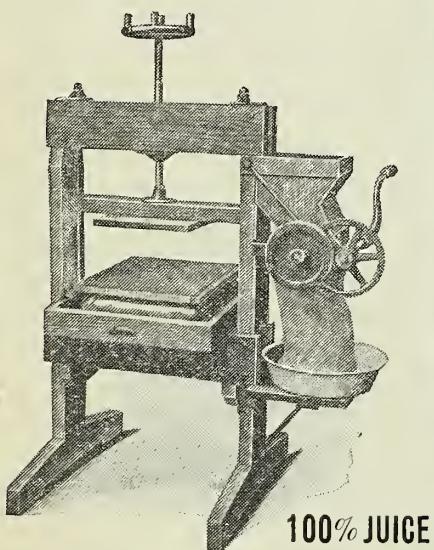
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“Decision Day”.

By J. S. Crutchfield, President American Fruit Growers, Inc.

THE general business situation is characterized by the lack of any distinct character. In other words, the country, and probably the world, has perhaps now reached the extreme height or depth of unsettlement. If this be the case, and we believe it is a fact, it means, speaking in basic terms, that conditions are ripe for a distinct and healthy restoration of confidence in business. All that is lacking at the present time is definite leadership and a decision day. When general business has stopped as still as it now has in many lines, it requires concerted action, under competent direction, to make the initial start.

A very pertinent question is: Have we reached the time when the word “Go” should be given? In other words, should July 15 next, be “Decision Day,” when the secretary of commerce, representing the administration, shall give the “Go” sign to all commerce and industry?

Most assuredly no earlier date than July 1 would have been opportune, and it might even be better to defer the date for this “all-together effort” until August 1 or September 1.

It is hard to imagine how fundamental conditions in the United States could be better than at present.

The present acute depression is artificial, unnatural and unnecessary. In our opinion, any such acute depression is wholly due to the unwillingness of the human factors in the rank of both capital and labor to recognize and bow to the inevitable.

Economic forces are actively in operation which refuse to follow the direction or ideas of either the captains of industry, the leaders of labor unions, or even the dictates of governments, unless such dictates conform to such natural laws.

The three big lines which make for normal volume of business are:

1. The approaching harvest of a crop produced at post-war costs, and which should, and undoubtedly can be sold at a net profit to the farmer.

2. The great building needs of the nation.

3. The vast and immediate needs of the railroads, in anticipation of a resumption of normal traffic.

Only such a crisis as the past year could have forced the farmers of the nation to get their production costs down in connection with the present maturing crops.

It would be a tremendous misfortune for the coming generation if an extensive nation-wide building boom should have taken place on the basis of the inflated costs of material, transportation and labor, heretofore, and even now, prevailing.

It would be nothing short of a calamity for the impoverished railroads to have been forced into the market for extensive im-



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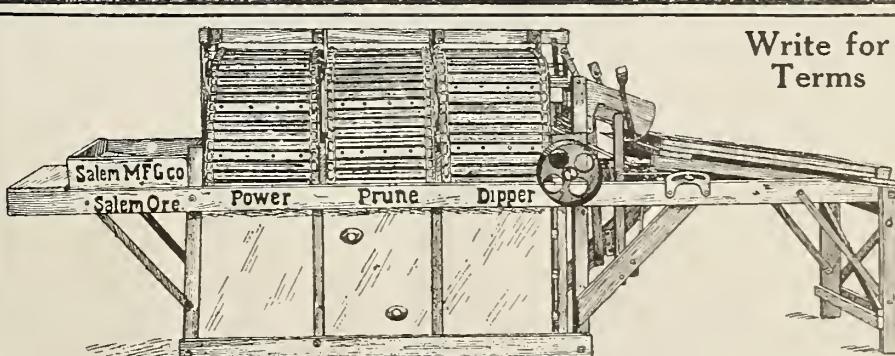
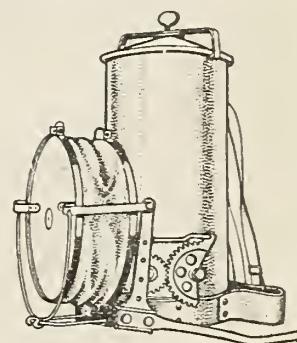
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provements and extensions at the rate of wages and cost of steel and other material.

The great American business machine came to a stand-still while the major adjustment was being made; and it is perfectly obvious and gratifying to know that it will be impossible to make any substantial start on the major recovery unless it be on a right, sound and permanent basis of price of materials, transportation and labor.

July 15 is a possible "decision day" provided the railroads are willing on that date, simultaneously, to put into effect permanent or emergency rates on agricultural products, building materials, road materials, coal and similar heavy lines which go into the matter of the nation's food and building needs.

These freight rates were, on September 1, 1920, simultaneously raised 25 per cent to 40 per cent. The nation's business is so closely related that the present program of "nibbling" at one rate after another, and to such an inadequate degree except where water transportation is forcing adequate reductions, obviously does not meet the need of the situation.

The decreased rates must be put into effect simultaneously, at least on the above lines, in order to make possible the necessary simultaneous stimulation which is needed to get business really started promptly.

Steel and material of all kinds for building and railroads' construction, which are materially above a pre-war price, must also put in emergency prices for a while, and simultaneously, if they would have general business resume without further unnecessary sacrifice; and labor, on the same date, must be willing, for the time being at least, to accept such a wage as the traffic will bear.

The question of profit, on the first few months' business is immaterial. The farmer produced a whole crop last year at a tremendous loss below the cost of production. No corresponding sacrifice will be required from labor or from other lines of business, if concerted action and co-operation can be secured on July 15, August 1, or September 1—whichever day is determined upon as "Decision Day."

It is unreasonable to force 60 per cent of the nation's traffic to do what has been done during the past few months, namely, pay to the railroads a higher gross and net income than 110 per cent traffic produced in gross and net income one year ago.

On July 1 the railroads received a distinct and material decrease in their labor costs and improvement in the classification and rules affecting the employment of labor. This succor having been afforded by the government's action through the labor board, it is perfectly right that the government should insist that either permanent or emergency freight rates should be put into operation; and these freight rates, in the above lines, should approximate the basis ob-

(Concluded on page 13)

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Marketing Conference

ELIMINATION of wastes in assembling and warehousing fruits at shipping points, amalgamation of existing co-operative associations, financing of the industry, principles of fruit marketing, evils of the present system of handling fruit and other national problems will be considered at the Western Fruit Marketing Conference to be held in the rooms of the Chamber of Commerce at Portland, July 11, 12 and 13.

The committee in charge of the conference consists of H. L. Hull, Yakima, chairman; Dr. S. B. Nelson, Washington State College, Pullman, Wash., and A. G. Craig, East Farms, Wash.

The program, which is sponsored by the state farm bureaus of Oregon, Washington, California, Montana, Idaho and Utah, will include the following addresses:

Water Transportation—C. De Vere Fairchild of Yakima, secretary deciduous bureau, Pacific Coast Producers' & Shippers' Association.

Fundamental Principles of Fruit Marketing—Dr. Hector McPherson, Corvallis, director farm markets.

History and Evils of Present Fruit Market System—Colonel Weinstock, San Francisco.

National Marketing Problems—Samuel Adams, Chicago, editor *American Fruit Grower*.

Principles of Marketing Systems—W. S. Shearer, Lewiston, Idaho, president Idaho Farm Bureau Federation.

Advertising Plans—C. I. Lewis, Salem, assistant manager Oregon Co-operative Growers' Association.

Elimination of Wastes in Assembling and Warehousing Fruit at Shipping Points—Ed Pierce of Opportunity, Wash., manager of Spokane Valley Growers' Union.

Refrigeration—R. R. Railthorpe of Spokane, gov-

“Decision Day”

(Continued from page 12)

taining before the advance of September 1, 1920.

It is unnatural and undesirable to expect business conditions to be very stable the next few years. Hence the need in all phases of business is sufficient elasticity and adaptability to meet the varying trade currents.

Foreign developments, as well as the final outcome of the crops, are always important, but uncertain, determining factors.

If the nation should again enter a period of great prosperity, which is possible, the railroads should be allowed immediately to participate in such prosperity—certainly until they fully recover and are able to supply the increasing needs for transportation of any such prosperity.

The administration's ability to successfully cope with the foreign situation, and gradually institute such improvements as will approach the extreme needs of our own and foreign nations, is unquestioned.

No nation could have more reason to be optimistic than the American nation has today; a world in great need of our products and our financial assistance, on the one hand, and our abundant supply of both products and money with which to respond to such needs, on the other hand.

overnment specialist in fruit storage and railway transportation.

Loading and Supervision of Cars in Transit—W. J. Urquhart of Yakima, Wash., manager Yakima Valley Traffic & Credit Association.

Storage at Points of Origin and Destination—F. W. Graham of Seattle, western immigration and industrial agent, Great Northern railway.

Increasing Efficiency of Distributing Points—C. H. Swigart of Yakima, manager Yakima Fruit Growers' Association.

Amalgamation of Existing Co-operative Marketing Associations and Organizations of Additional Units—George A. Mansfield of Medford, president of Oregon State Farm Bureau.

Financing the Growers and Acceptance of Fruit Paper by Local and Federal Reserve Banks—F. A. Duncan, Yakima, Wash., president Yakima National Bank.

The Future of Co-operative Marketing—E. A. Bryan, Boise, Idaho, state commissioner of education.

Necessity for an Annual Western Fruit Marketing Conference—Ward M. Sachett, Hamilton, Mont., manager Montana Fruit Distributors.

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Fifteen Years

With this issue of BETTER FRUIT is begun its sixteenth year of service to the fruit grower of the Pacific Northwest. Through years of discouragement, when the fruit industry truly was in its infancy in this section of America, BETTER FRUIT continued the counsellor and friend of every grower.

“Service!” That has been the watchword of BETTER FRUIT. Only through service to the grower has the publication of such a magazine been justified. For the future we have pretentious plans. We hope to extend our scope and influence, to concentrate in our columns not only the technical horticultural developments in fruit growing but the solution of marketing problems and other difficulties facing the industry.

To our friends of many years, we express our cordial appreciation of their loyalty and pledge ourselves to greater service in the future.

Water Transportation

That the real solution of transportation difficulties for fruit-growers of the Pacific Coast lies in the development of the water routes to the Atlantic seaboard and Europe is the belief of many well-

informed observers who have the welfare of the industry at heart.

Even with the reduction in freight rates about which so much has been said and so little materialized as yet, the costs of transportation are far from the pre-war level which must be approached if the growers are to receive a fair profit on their product. If, with lower rates, steamship lines are able to deliver Pacific Coast fruit in good condition to Eastern distributing centers, they are certain to get a heavy volume of business.

It is not altogether a question of rates. It is a question of facilities, as well. Shortage of cars contributes greatly to the difficulties of the shipper endeavoring to move his fruit from the West. It must be remembered that all freight cars are not adaptable to the transportation of fruit. And that there is a distinct shortage in refrigerated cars is admitted by all the railroads.

Plans to provide excellent refrigeration facilities on steamship lines plying to the Atlantic coast, Asia and Europe insure their use to a large extent by the fruit growers.

An important step in the solving of transportation difficulties was taken in Seattle last month when the Pacific Coast Producers and Shippers Association was formed. Six thousand carloads of fruit from California and 4000 to 5000 from the Pacific Northwest were promised representatives of steamship lines at the organization meeting.

The aim of the new association, we are told, is “to encourage the shipping of fruit by water to Gulf and Atlantic Coast ports as well as to Europe and the Orient, and to endeavor to obtain better general service in delivering Pacific Coast fruit to eastern markets through water transportation.”

BETTER FRUIT has no quarrel with the railroads. The rail lines have faced tremendous problems of readjustment and their burdens are heavy. BETTER FRUIT can recall that co-operation of the railroads has been of vital assistance in the development of the fruit industry in the West. But the railroads are not meeting the situation today,

likely through no fault of their own.

We believe that the provision of adequate water transportation for fruit will be of great importance to the industry if the West, which is growing so fast that future years will require the utmost facilities of combined rail and water routes to move the crops.

The Outlook

The increase in freight rates, high production costs, a general curtailment in buying and the deflation program have all had their influence in making the past season for deciduous fruits not as profitable as preceding seasons, yet in many respects the fruitgrowers of the Northwest are in much better condition financially than those of most other sections of the country. This is especially the case in regard to the box apple industry which, although far from being as satisfactory as growers and shippers would wish will wind up in much better shape than that of the citrus growers, who have had to take a loss instead of making a small margin of profit or at least breaking even.

Indications now are that the coming season will be more favorable. So far, weather conditions have been admirable for a good crop of all fruits in addition to the fact that producing costs along most lines are coming down. The price of boxes compared to last year has declined very materially, while labor and other costs show a tendency toward a sharp decline. Authentic reports on the outlook for improved business conditions in the near future, and efforts toward a widening of the export trade for American commodities of all descriptions lead to the belief that the coming year should result in a much more successful outcome for the fruit industry generally.

THE United States apple crop this year is estimated at 107,698,000 bushels as against 240,442,000 bushels in 1920. A much greater proportion of the total will originate in the Northwest this year, however, as the big producing states of the east and south have suffered severe frost damage, and besides they would naturally expect a lighter crop following their heavy one of last year.

Water Shipment of Fruit

ON June 1 delegates from the fruit districts of California, Oregon and Washington held a convention in Seattle and organized the Pacific Coast Producers' and Shippers' Association. C. S. Whitcomb, vice-president of the California Fruit Growers' Exchange, was elected president of the association. The object of the new association is to encourage the shipping of fruit by water to Gulf and Atlantic Coast ports, as well as to Europe and the Orient, and to endeavor to secure better general service in delivering Pacific Coast fruit to Eastern markets through water transportation. At the meeting steamship companies were assured that for this season the association would guarantee 6,000 cars from California and 4,000 to 5,000 from the Pacific Northwest.

The new association has two branches, the citrus for California interests and deciduous for shippers and growers of fruit in the Pacific Northwest. J. H. Wade of Wenatchee was elected president of the deciduous fruit branch; C. DeVere Fairchild of Yakima, secretary and treasurer. Directors at large, C. L. Lewis of Salem and H. F. Davidson of Hood River. The shipments of fruit will be largely from the ports of Seattle, Tacoma, Portland and San Francisco. Steamship companies have indicated their willingness to equip vessels with cold storage facilities for handling shipments of fruit.

Unequal Readjustment

IN a recent tabulation by Herbert Hoover, secretary of commerce, a graphic illustration was given of the unequal progress in the various steps in economic readjustment. It showed the danger of the agricultural industry and its standards of living being undermined. The following index numbers show present heights—100 being 1913:

Farm crop prices, 115; farm meat animals, 123; wholesale index, all commodities, 162; building materials, 212; house furnishings, 275; clothing, 192; fuel and light, 207; railway rates, 166; building-trade wages (skilled), 177.

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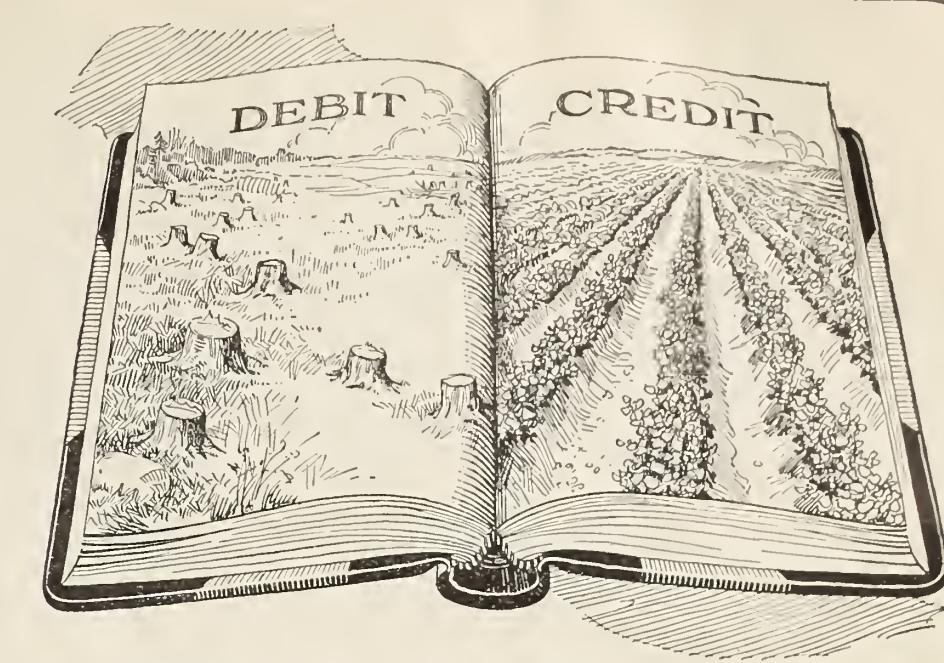
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Standardization Improves Berry Pack

BASED upon reports from Inspector Bot tel, County Horticultural Commissioner H. J. Ryan, of Los Angeles, has the following to remark on the value of stand ardization as affecting the southern berry pack:

"The method employed this season of preparing strawberries for market and shipment unpacked or loose packed is meeting with great favor by growers, shippers, dealers, retailers, and consumers. It does away with the incentive for deceptive packing and at the same time permits of full compliance with the fresh fruit and vegetable standardization laws.

"The grower is fully convinced that it is to his interest to grade the berries, and the consumer feels that he can now buy with a fair assurance of getting a full box of good fruit. The shippers are agreed that loose packed berries carry to distant markets in much better condition than when placed compactly. The dealer and retailer can now offer berries in three grades—No. 1 consisting of mature, well-colored, well-picked berries, uniform in size, of fine quality, free from all defects and averaging about one inch in diameter. The No. 2 berries are of about the same quality as No. 1, except that they will average about three-fourths inch in diameter. No. 3 grade consists of small berries of fair quality."

Picking Raspberries

RASPBERRIES should be picked just as soon as they will come off the core without crumbling in the picking. Place the first two fingers and the thumb behind the berry and gently pull it off without much pressure. Do not hold many berries in the hand at one time or they will be crushed and be spoiled for shipping. Also do not put over-ripe berries in the same box with good, solid ones, or they will not ship well. A soft berry soon molds and spoils the whole crate. Fill the boxes full, but do not round or heap up in the center or the cover will crush them. Be careful not to allow the sun to shine on the berries any more than possible after they are picked.

The Value of Thinning

(Continued from page 6)

and those of fifteen to twenty boxes capacity will require from one and one-half to two hours each. In removing the fruit the hand is much more rapid than thinning shears and should be used with all varieties excepting the very short stemmed ones and those clinging very tenaciously to the spurs. Of all orchard practices that tend to increase the size and color of the fruit, thinning is the only one under the complete control of the grower. It is sure to increase the value of the crop with the least drain upon the tree.

Gebhardt, Scudder & Hendrickson

Attorneys at Law

610 Spalding Building, Portland, Oregon

Attorneys for Better Fruit Publishing Co.

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Me-o-my, how you'll take to a pipe—and P.A.!

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PRINCE
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national
joy
smoke

The Nut Industry of the Northwest

By Knight Pearcy of Salem

THE Northwest country of America can produce commercially three varieties of nuts, chestnuts, walnuts and filberts. The nut producing sections of this region are limited almost wholly to that part of the states of Oregon and Washington located west of the Cascade range.

While there are few or no commercial orchards of chestnuts of any considerable size, still there are groups of trees scattered pretty well over this whole region whose performance is such as to warrant the belief that chestnuts can be grown here commercially in case the market demands are such as to make such groves desirable.

Near Salem is a planting of trees some twenty years of age. In spite of the fact that these trees are planted much too close together and that they have been given poor care they average fifty pounds of nuts per tree annually. Some of the trees have produced 100 pounds and one yielded 150 pounds one season. Other small plantings in the Willamette valley have done equally well. We can be assured of an average yield of at least 1200 pounds per acre. Chestnuts have brought twenty-five to forty cents per pound to the grower on the Chicago market in past years.

The great native chestnut regions of the East which have heretofore furnished the needs of the American trade are fast vanishing as a result of a terrible disease which has been killing off thousands of acres of trees annually for the last twenty years. Plant pathologists say that there is no hope of saving these plantings and that it is impossible to grow commercial plantings in

the area of the native chestnut since the disease spreads to the cultivated varieties, with these nuts they must be either supplied. Hence if our markets are to be supplied from foreign sources or else from a limited section of the middle west in which the nut is not native, or from our Pacific Northwest.

There is no question as to whether we can grow the nut here successfully. The question to be decided is simply whether market demands are such as to warrant planting the orchards. The writer believes that in time we will plant a limited acreage of chestnuts along with other nuts.

The chestnut is easy to grow. It thrives on a free soil where drainage is good. It should be planted at thirty-five to forty feet intervals.

The walnut is a nut that has proved its adaptability to conditions of this country. It will some day be listed among our great crops, along with the loganberry and the prune.

The United States has averaged annually for the last ten years an importation of 18,000,000 pounds of unshelled walnuts and 11,500,000 pounds of shelled walnuts. California in 1919 produced 56,000,000 pounds. Consumption of nuts is increasing very rapidly in this country.

Oregon has about 8000 acres of walnuts. Fifty per cent of this acreage will in all probability develop into high grade properties. One may wonder why only half of the total plantings of the state show prospect of succeeding commercially. The reasons are several. The walnut is not adapted to a



How to prevent the "blotch" or "burn" of the spray on fruit

Observe this study in contrasts. The apple at the left was sprayed with Arsenate of Lead—a wonderfully good spray. But the user neglected to mix "Spray Spread" with it. Below is a similar apple—sprayed with the same kind of spray—but Albatross Spray Spread was mixed with the spray. Note the difference—the "lead" dried on the FIRST apple in



Note the "blotch" or "burn" of the lead on this apple

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Directions sent with each order



Note the uniform, adhering film on this apple

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wide range of conditions as are the prune, loganberry or filbert. It does very well when conditions favor it, but it is a waste of money to try to make it grow where conditions are unfavorable. A large amount of money has been wasted by trying to grow nut groves in locations where air or water drainage is poor or where the soil is shallow. Others lost out by planting inferior trees or inferior varieties and still others by not properly caring for their trees after they were planted. The young walnut tree requires a lot of babying.

AIR drainage is of first importance in selecting a site for a walnut grove. We know of one grove that has lost crops in recent years from both late spring frosts and from early fall frosts. The hill lands are generally well drained both in respect to air and water, but it does not always follow that because a site is in the hills that such is the case.

The walnut grows to be a large tree and is a heavy feeder and thrives much in proportion to the depth and fertility of its soil. The white, poorly drained, level lands should never be planted to nuts. The river bottoms will grow a fine tree and grow it more rapidly than will the hills, but they are more subject to frost than are the hills. Some locations along the river bottoms seem much more frost free than are others and on these nut growing may be successful. They will usually be hit by frost more often than will the hills, but they will yield larger crops and will bear commercially a little earlier when the frosts do not interfere.

The hill lands are the safest for heavy plantings, especially where the walnut is to be a major crop. Where filberts are to be the major crop and walnuts a minor crop the river bottom soils are best. The hills generally are more free from frost, but are more difficult of cultivation, mois-

ture is more difficult to hold and often the soils are less fertile.

While the walnut is not native to our Northwest country it, nevertheless, finds conditions here congenial. Nowhere in the world is a walnut produced which excels our properly grown and properly cured Franquettes. Too few of our growers understand how to harvest and dry the nut. As it falls off the tree the Oregon walnut has no superior, but poor handling often reduces it to a cull product by the time it reaches the market. By running the temperature a little too high or a little too low in drying the quality of the nut can be seriously injured, and by not properly washing

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FRUIT MATURITY is retarded by cold or refrigeration and hastened by heat or atmospheric exposure.

The soft fibrous silk-like texture of "Caro" provides just sufficient ventilation to retard the ripening process.

FRUIT DECOMPOSITION starts from a bruise which opens tiny holes and permits juice to escape and BACTERIA to enter. "Caro" clings closely and dries up the escaping juice. "Caro" ingredients harden the spot, kill the BACTERIA, arrest the decomposition.

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or by keeping in sacks too long after picking and before drying, the shell may become so discolored as to put the nut into the cull grade. One great advantage to our growers who live in centers where the Oregon Growers' Association has drying plants is that they may have their nuts washed and dried by experts equipped with suitable machinery.

The commercial success of a crop depends largely upon its yield. The walnut yields well in this favored horticultural paradise. There is a big black walnut tree near Hillsboro which has been worked over to English walnuts and which bore 408 pounds of nuts one year.

An orchard in the Sheridan highlands produced 25 pounds per tree of dried nuts the ninth year, which gives the lie to the statement that in planting walnuts one is planting for his children rather than for himself. Another orchard at Wheatland on sandy river bottom land bore 500 pounds

per acre the tenth year. These two plantings are grafted orchards and have been well cared for. There is a twenty-one-year-old planting of seedlings at Jefferson which averaged 1000 pounds per acre in 1919 and this from an orchard which was given almost no care at all for many years. The average production per acre in California for the state at large is 800 pounds, although there are plantings which have yielded as high as 400 pounds per acre.

Walnut trees should be planted fifty to sixty feet apart in order that they may not become too crowded in later years. As it takes a good many years for the trees to grow to a size which will utilize this amount of space it is considered good practice to plant between the walnut trees a variety of fruit which comes into bearing young and which does not grow to a large size. The prune and the filbert are best adapted for this purpose.

While the walnut is a little slow to come

into bearing it still makes a very nice crop to grow. With the filbert it appeals especially to the city man who wishes to retire to country life, in that these two crops can be produced with less attention to such details as thinning and spraying and are much easier to harvest than the more perishable fruits.

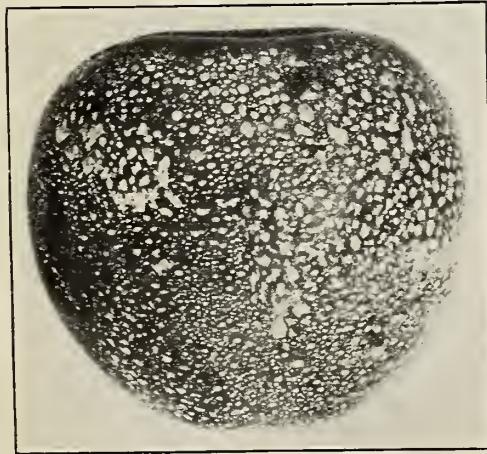
WHILE the walnut offers many advantages the filbert offers still more and is, in our mind, the most attractive orchard crop in the Northwest, bar none.

Among its advantages is the fact that it blossoms in winter and the pollination is in little danger of injury from winter rain or frost. The tree is adaptable to a large variety of soils and locations. Its crop is easily and cheaply harvested, no expensive driers or harvesting equipment or large crews of pickers being needed. There is no spraying to amount to anything and no thinning and there are few insects and dis-

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Ready for use. Simply stir into the spray solution



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No Spreader.

"SPREADO" produces a uniform coating, completely protecting the fruit.

"SPREADO" increases the adhesiveness of the spray, especially desirable in rainy sections.

"SPREADO" increases the wetting and covering power of the spray, more than paying for itself in the saving of spray material.

"SPREADO" does not in any way injure the foliage or the fruit.

"SPREADO" is highly recommended as a spreader by the Oregon Agricultural Experiment Station.

DIRECTIONS

When the spray tank is nearly filled, start the agitator and sift in slowly the required amount of "SPREADO." Keep the agitator in motion.

"SPREADO" is especially recommended for use with arsenate of lead for the cover sprays in the proportion of 5 to 6 lbs. of powdered arsenate of lead with 2 lbs. of "SPREADO" to the 200 gallon tank.



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Eugene Fruit Growers' Association
EUGENE, CRESWELL, AND JUNCTION CITY, OREGON

eases to combat. The nut is not easily perishable and bears at an early age, producing large crops of high-priced products. Over-production is improbable, the American public consuming now 20,000,000 annually of foreign grown nuts. In fact, this is an ideal "lazy man's" crop, easily grown and returning good dividends.

The filbert will never be grown in any other part of the United States because of limitations of climate and of disease. The one thing that prevents rapid increase in planting in this section is the limited supply of nursery stock. The filbert cannot be propagated rapidly like other trees and it will be years to come before enough trees will be available to fill the demands for stock.

Under ideal conditions the filbert will begin to produce commercially the fifth

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BETTER FRUIT

year and will increase rapidly in yield thereafter.

The Moission orchard near Salem produced a ton per acre the tenth year and it was not in the best condition possible. The Kruse orchard at Wilsonville, one of the finest in the state, produced thirty pounds per tree the tenth or eleventh year. This is at the rate of 3000 pounds per acre. The owner received thirty cents per pound that year which netted him a very fine revenue. However, we cannot expect that price now that prices are returning to normal, although we can expect eighteen to twenty-five cents to the grower.

There is a thirty-two-year-old tree in East Portland which produced 150 pounds one year. This is at the rate of over seven tons per acre. George Dorris, the veteran filbert grower of Springfield, states that an acre of number one Barcelona trees, given everything favorable, should produce 500 to 1000 pounds the fifth year; 2000 to 3000 pounds the eighth year; 3000 to 4000 the tenth year and 4000 to 5000 pounds the twelfth year. Dorris is perhaps the best posted man on filbert yields in America, but if we discount his estimates by fifty per cent we still have a most attractive commercial proposition.

Nut growing is one of the most attractive fields open in this section of the country. It is especially attractive to the man coming from other avenues of life than that of farming. The man who leaves behind him a well grown grove of walnuts and filberts will leave his children a legacy that will insure them a steady income. It will be but a few years until the nut industry will rank in importance with the berry, prune and apple industries of the Northwest.

July, 1921

Transportation Problems

(Continued from page 7)

cannot be overestimated, and it is our purpose to develop it to the highest state of efficiency, still our domestic trade is and for many years to come will probably remain our main source of demand.

Situated within 300 miles of the coast of the Pacific Coast we have a population of 6,000,000; within 300 miles of the Gulf of Mexico and the Atlantic ocean, including the coastal zone of Eastern Canada, we have a population of 58,000,000. As a further illustration, within 25 miles of the Statue of Liberty in New York harbor there resides a population of 8,000,000, which is greater than the combined population of the seven states of California, Oregon, Washington, Idaho, Montana, Utah and Colorado.

Tributary to the Port of New Orleans they claim a total of 13,869 miles of navigable rivers. This inland waterway, in connection with the New York barge canal, creates what we term the Inland Waterway Zone, having a population of 25,000,000.

IT HAS been said that the secret of success is to grasp an opportunity when it presents itself. This is our opportunity, to distribute the deciduous fruits of the Pacific Northwest and the citrus fruits of California to the 58,000,000 people resident within the Gulf and Atlantic coastal zones.

These figures illustrate most forcibly the concrete fact that the United States is destined to become a maritime nation. The demand for efficiency and elimination of waste, the necessity of applying more closely the fundamental principles of economics, and the positive demand for lower rates of transportation if our industries are to survive, constitute the primary causes of the present national movement for water transportation.

An analysis of the consumption of western fruit in our domestic markets shows that the large population of the southeast section of the United States does not purchase its portion. It is our firm belief that water transportation will alter this condition and result in a tremendous increase of consumption in that territory.

It is gratifying to note that the United States Department of Agriculture is to equip a vessel for the express purpose of making a comprehensive study of the transportation of western fruits via the Panama Canal to the Gulf and Atlantic ports. It shows that our government is awake to the necessity of intelligent and constructive effort and the result of this study will mean much distribution to the world's markets.

YAKIMA County Beekeepers' Association, numbering more than 400 apiarists, has elected J. P. Espy of White Swan, president; R. C. Immell of Toppenish, vice-president, and C. W. Higgins of Wapato, secretary-treasurer. H. N. Paul of Mabton will be purchasing agent.



Fifteen Years

(Continued from page 5)

either way for failure or success, of the endless fight to place his fruit in a market flooded from other districts. Let the growers in on the problems every selling organization has to face; educate them to a proper realization of the difficulties of sales, deliveries and collections, and there will be less criticism, less dissension and a more wholehearted co-operation, which will make for success.

Co-operation in some form or other is the bulls-eye at which so many shots are being fired, with so comparatively few hits registered, but, with the vast experience of the past, the fruit growers of the Pacific Northwest are unwise indeed if they do not train their sights for a clean hit.

"In Every Respect"

says the Good Judge



You get more genuine chewing satisfaction from the Real Tobacco Chew than you ever got from the ordinary kind.

The good tobacco taste lasts so long—a small chew of this class of tobacco lasts much longer than a big chew of the old kind. That's why it costs less to use.

Any man who has used both kinds will tell you that.

Put up in two styles

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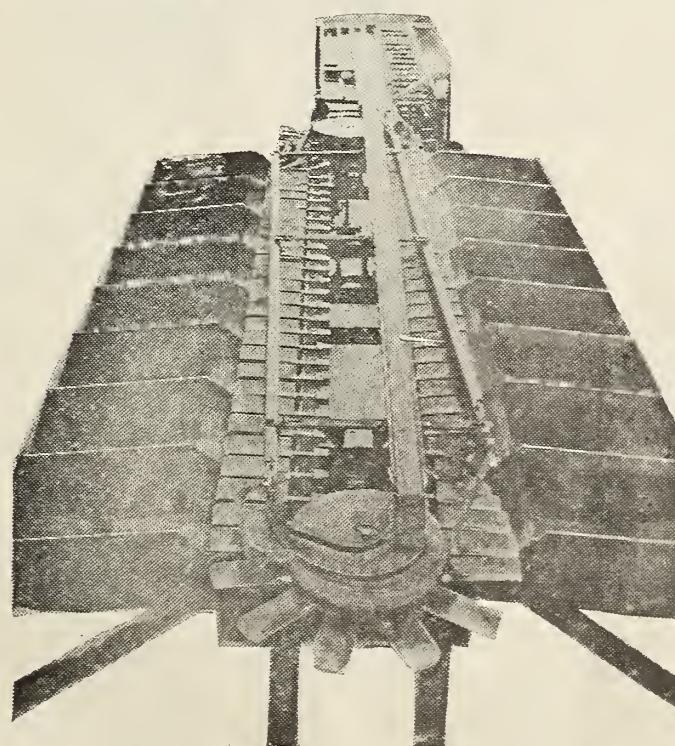
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A Perfected Weighing Machine, Accurate and Efficient

The operation is simply this: Fruit is raised automatically from hopper to sorters, by conveyor belt, fixed with rollers to prevent bruising. Passed by the sorters, it is deposited by belt conveyor, one at a time, upon aluminum scales, which are attached to single sprocket chain, carrying fruit along the side of the shunt-board, which gradually pushes them farther out on scales, until their weight tips scales, depositing them in packer's bins. All fruit of same weight will tip scales at same bin; it must function!

If fruit is running large, shunt board may be set in; if small, set it out. This is the only necessary adjustment.



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Scales on SINGLE chain, not double.

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Parkdale, Hood River Valley, Oregon

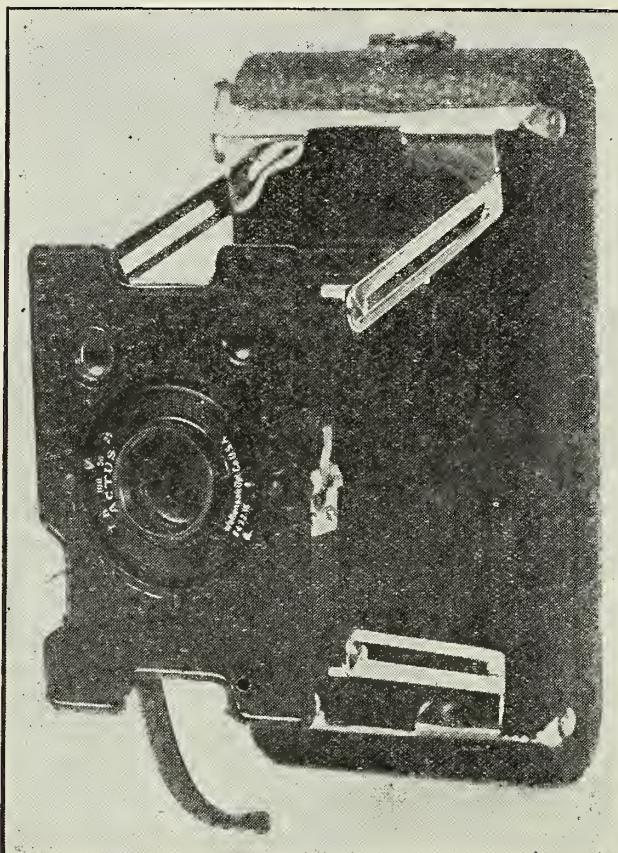
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THE Wenatchee District Co-operative Association has taken over the five warehouses of the Wenatchee Northern Warehouse and Marketing Company at Wenatchee, Cashmere, Monitor, Olds and Rock Island, the price being in the neighborhood of \$150,000.

IDAHO

LEWISTON ORCHARDS, outside of the city of Lewiston, was settled about 1907, and is a communistic organization covering 4300 acres divided into individual orchards. The residents enjoy electric lights, city water, church, school, community packing house, several miles of paved streets and as many more of macadam. The growing season is long, the soil very productive, the scenery unsurpassed. Land sells for from \$250.00 per acre up, according to improvements. Elevation approximately 1400 feet. Apples are the principal crop, though other fruits and vegetables grow to perfection as well.

▲▲▲

LAST year the state loaded 3100 cars of apples and has every expectation of shipping about the same number this year. The prune crop will probably be the largest ever raised, conservative estimates placing the amount at 1550 cars, as against 1267 cars shipped in 1920. Below is given estimate of condition of various fruits averaged from reports from ten important counties.

Apples	83.8
Prunes	84.2
Pears	67.8
Peaches	48.5
Cherries	60.4

▲▲▲

THE summer session of the State Horticultural Society held on June 11 at Fruitland, was reported the most interesting of these meetings ever held. There were demonstrations of sprays and spraying, and top-working of trees, also many of the problems confronting the growers were discussed by experts from all over the state.



“ 111 ”
ONE-ELEVEN Cigarettes
To tell you of the care in blending tobaccos for ONE-ELEVEN Cigarettes would be highly interesting. But just buy a package and find out.

20 “ 111 ” cigarettes 15¢



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INCORPORATED

What They Are Doing in California

RUNNING true to the progressive form of the state, Imperial valley melon growers and shippers are co-operating with the Bureau of Markets, United States Department of Agriculture, in the matter of broadening their distribution. The department opens a temporary office at Brawley, Calif., at the beginning of the season, and by means of a large chart is able to know the daily distribution of each day's shipments and diversions. It is in telegraphic communication with 20 to 25 of the country's big markets and is able to visualize upon the chart the exact state of each for the benefit of all shippers, who have free access at all times to the chart. There is no discrimination; all have an equal knowledge of market conditions.

▲▲▲

SIXTEEN years ago California supplied only about one-fourth of the lemons used in the United States, the balance being imported from Sicily. Today three-fourths of this country's demand is grown in the state. There are today 22,651 acres of bearing lemon trees and 16,799 acres non-bearing. This means that some day we will be producing approximately 75 per cent more lemons than we do today.

TREES AND SHRUBS

Fruit trees budded from bearing orchards. Apple, Pear, Cherry, Peach, Plum, Prune, Apricot, Quince, Grape Vines, Shrubbery, Plants, Raspberries, Blackberries, Logans, Dewberries, Asparagus, Rhubarb, Flowering Shrubs, Roses, Vines, Hedge, Nut and Shade Trees. Carriage paid. Satisfaction guaranteed.

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BUY FROM THE LOCAL MITCHELL DEALER

GOVERNOR WILLIAM D. STEPHENS recently telegraphed President Harding that thousands of acres of food in California, especially potatoes, will not be harvested unless some relief is forthcoming in the matter of freight reductions. Governor Stephens stated in his telegram that the state's vegetable industry is "slowly but surely being strangled to death by what seems to the producers to be prohibitive rates."

Cannery Notes

W. E. ST. JOHN in charge of the big plant of the Oregon Growers' Co-operative Association at Sutherlin, Oregon, announces that canning machinery is being installed in the main building, and everything made ready to handle the big loganberry crop in the valley and vicinity.

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CALIFORNIA, the greatest of all our states in the matter of the canning of fruits, canned in 1920, fruit of approximately \$110,000,000 in value, while the little island of Hawaii put up a pack of pineapples alone to the value of \$31,000,000.

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H. F. DAVIDSON, president of the recently formed Oregon Canning Company, operating five canneries, in speaking of the cannery situation says: "Marketing conditions this year do not warrant a capacity pack. For this reason we will be unable to take all the fruit offered, but will handle all we can with safety, and will pay the growers as much as we can afford under the existing conditions."

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THE Hood River cannery has been running strawberries and will handle cherries, pears and peaches as they come along.

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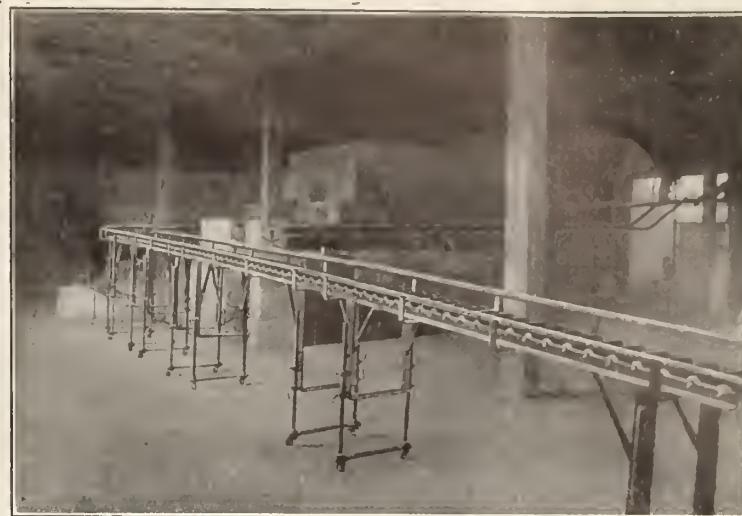
THE Idaho Canneries, Inc., at Payette, canned 16,700 cases of fruits and vegetables in 1920. The management reports a production plan for 77,000 cases this year, warranted they say, by the ready demand for their pack last season.

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AS a result of an agreement between creditors of the A. Rupert Company and the recently organized Oregon Canning Company, at least two of the big Rupert Company plants in the Willamette valley will be operated this season. There is a possibility of more than two of the plants being operated. This means that a much larger proportion of Oregon's fruit crop will find a market this year. The amount handled by the plants will depend largely upon the growers. The two plants which will definitely begin operations are located at Newberg and Lebanon. They have a combined packing capacity of about 400,000 cases of fruit and vegetables and are the largest of the Rupert canneries. Negotiations are also under way for the operating of the McMinnville and Roseburg plants and for subleasing the plant at Springbrook. The Oregon Canning Company controls all five of the plants. In addition the company has acquired the Rupert brands and has taken over the Rupert office, plant staffs and its nation-wide distributing organization. H. F. Davidson of Hood River is president of the company.

Oregon Growers' Association Notes

AT a meeting of the Oregon Growers' Co-operative Association members last month, a price of one cent a pound for cherry picking this season was unanimously agreed upon. This price was voted for loganberry picking also, but no definite decision was arrived at as to offering a bonus to pickers who stayed through the entire season. Last year many school children were able to make as high as \$6.00 a day, with a picking price up to 4 cents a pound, more than the berries are bringing this year.



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* * *

C. E. RAMP, manager for the Oregon growers at Dallas, reports that many prune orchards in the district south of Independence, will produce heavy crops of large-sized fruit. Earlier reports from most of the prune districts were to the effect that there was a universally short crop in all districts, so that Mr. Ramp's findings are encouraging.

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With the Poultry

CHANGING GROUND

RAISING chickens on the same ground year after year is frequently the cause of disease in chicks. The colony houses for chicks should be moved to fresh ground each second year. The soil of the old run should be broken up and corn, oats, alfalfa or garden truck grown on it. The plowing of land and growth of a new crop is beneficial from the standpoint of sanitation.

Many brooder chicks that are started and kept confined in a very small run contaminate the ground in a very short time and by the time they are eight weeks old, the young chicks fail to make a satisfactory growth in response to the feed they consume. The trouble lies in the fact that every time they pick up a grain of feed they take into their system the infection of the soil. It is desirable, therefore, to get them on fresh ground at frequent intervals and feed them on fresh ground.

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HOW TO TREAT GAPES

DURING the early summer much trouble is experienced by poultrymen with gapes in chickens, caused by worms in the windpipe. The larva of this parasite is picked up by the chickens in the damp earth and the parasites detach themselves in the windpipes of the chickens, where they first cause irritation and upon growing obstruct the passage of air.

Where chickens are affected they should be placed in a pen or room which has been sprinkled freely with slaked lime. A few drops of turpentine added to the rations may be beneficial in controlling the disease. In an effort to dislodge the worms, feathers may be dipped in turpentine and passed down the chicken's windpipe. Worms are sometimes removed with a twisted horse hair or a specially prepared instrument that may be obtained at any poultry supply house. However, prevention is the best means of control. Lime the soil where gapes—infected chickens—have run. Confine the chickens so that they cannot run under out-buildings and in shady or in damp places. Where a chicken is badly infected with gapes, it is best to kill it and burn. Confine unaffected chickens in a yard freely sprinkled with a liberal amount of freshly slaked lime.

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PREPARING POULTRY FOR MARKET

EXPERTS in poultry raising advise that in selecting chickens for market they should not be fed from 15 to 18 hours before killing. In killing either stick the chicken in the roof of the mouth or dislocate its neck by bending the head back as far as it will go and then at the same time pulling the neck. It is preferable to dry pluck the chicken as soon as it is killed, but by care in scalding it can be made to preserve a good appearance. To do this hold the chicken by the head and feet and immerse the body sufficiently long to soak the feathers in water that is not quite boiling. The feathers then can be removed by inexperienced help without trouble. By leaving the feathers on the upper half of the neck, few can tell that the chicken has been scalded. If the head and feet are placed in hot water, the head turns pale and shrinks, while the shanks scale off.

In hot weather immediately after plucking the chickens should be placed in tubs of ice or cold water where they should remain for several hours to be chilled before being packed for shipment.

By using the chilling system and packing carefully poultry can be transported long distances in warm weather and arrive in good condition.

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ONE of the best antiseptic sprays for use in the hen house is Carbolineum. It is a sure preventive of mites and red spider when applied properly, and is a general cleanser.

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DO NOT expect your hens to produce many eggs if you simply turn them loose in the orchard and give them no other food than that which they can pick up. The best time for the grain ration is in the morning, and it can be scattered in the litter at night in the hen house, so that by the time they are let out in the morning they will have worked for and found practically all the grain. With one good grain feed a day to augment what they can rustle, they will pay for their care.

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DISINFECTANTS help keep up the health of chicks. It prevents the spread of diseases, destroys mites and lice and kills germs of contagion and infection. The coops and houses should be cleaned and sprayed thoroughly at least once a week. Prevent the disease before it makes its appearance.

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THE low price of eggs this summer means that more of them are being eaten fresh and fewer are going into cold storage, which will mean that the man who keeps his hens for fall and winter laying will in all probability enjoy high prices for all the eggs he may have to sell.

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IN TRAP nesting one nest for each three hens is about right.

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SOFT shelled eggs are caused by the hen being too fat, or from a lack of lime in the ration. Laying hens should have access at all times to a plentiful supply of lime, grit and charcoal.

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MOST people strive for the earliest possible hatch of chicks. This is all right if you expect to market them for food, but for the best egg production later hatched chicks are the best, for pullets hatched before March 15 are pretty apt to molt the next fall, whereas when they hatch after that date they rarely molt until the fall of the next year.

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IT IS a common belief that the dark-colored eggs are the richer in flavor. This is not true, however, for it is the food the hens get that flavors the eggs.

Bits About Fruitmen and Fruit Growing

ACCORDING to Ralph Budd, president of the Great Northern railway system, the fact that the Pacific Northwest will have a bumper apple crop this year, has prompted his road to place orders with the American Car & Foundry Company for 500 refrigerator cars, to be delivered by October 15. Mr. Budd stated further that the Great Northern had on its lines 87 per cent of its cars at this time, as against 35 per cent a year ago. This is an encouraging sign, and shows the interest our fruit awakens in the big carriers.

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DWIGHT L. WOODRUFF, eastern sales and export manager for the Hood River Apple Growers' Association in New York, has been employed as general manager of the Wenatchee District Co-operative Association and will take charge

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Write for information and list of varieties to

Evergreen Plantation
New Meadows, Idaho

June 1. Mr. Woodruff was connected with the old Wenatchee Valley Fruit Growers' Association 13 years ago, and went from there to Salem, where he was at the head of a fruit growers' association. He then took his position with the Hood River association, and has been in New York five years. Announcement is made by the association that a loan of \$1,000,000 has been made through Spokane and New York banking interests, to be used by members of the association in growing and harvesting their crops. Contracts for 3,000,000 apple boxes have virtually been closed, mostly with local mills. The entire crop of association members, estimated at 4500 cars, will be marketed

through the North American Fruit Exchange of New York.

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THE United States Department of Agriculture is forever on guard to protect our agricultural and horticultural interests. One of the latest protective measures it has instituted is Quarantine No. 37, relative to the importation of nursery stock, which reads: "Where any packing material is needed for the safety of nursery stock * * * such materials as sphagnum, cocoanut fibre, straw, chaff, excelsior, shavings, saw-dust, charcoal and ground peat may be used. Such packing material must not have been previously used as packing or otherwise

in connection with living plants and must be free from sand, soil or earth, and must be so certified by the duly authorized inspector of the country of origin."

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THE United States Department of Agriculture reports a big increase in the number of stands of bees in many eastern states. Why are not our Northwestern states on the list? Here where fruit growing occupies such a prominent place, and where we claim to be leaders in the adoption of modern methods, surely every orchard should have at least one stand to assure pollination.

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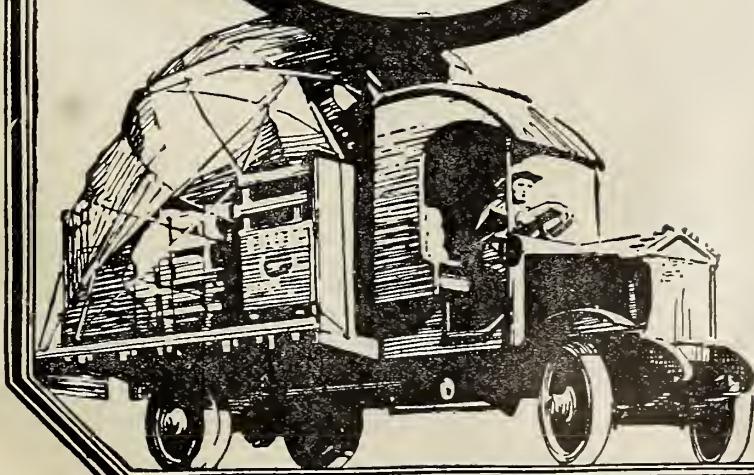
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WANT to hear from parties having farm for sale. Give particulars and lowest price. John J. Black, 19th St., Chippewa Falls, Wisconsin.

CUT-OVER and Developed Lands, 15 to 25 miles N. E. Spokane; extra good soil; spring brooks; grows grain, vegetables hay, fruits; several developed ranches; few stock ranches; \$10 to \$20 acre; 10 years' time, 6 per cent interest. Free lumber. Write owners for free book. Edwards & Bradford Lumber Co., E.K., Washington.

LOGGED-OFF LAND in Stevens County, Washington, at greatly reduced prices: Why bother with fruit land at high prices when you can get good dairy and stock land at from \$5.00 to \$20.00 per acre? Write for folder. Phoenix Lumber Co., Dept. B, Spokane, Wash.

MISCELLANEOUS

ARROW CARBOLINEUM kills chicken mites in poultry houses. Preserves wood against rot and premature decay. Write for circular and prices. Carbolineum Wood Preserving Co., 222 E. Water St., Portland, Oregon.

TOBACCO—KENTUCKY NATURAL LEAF, chewing and smoking; rich, ripe and mellow; two and three years old, aged in wood; 2 lbs., \$1; 7 lbs., \$3; sample 10 cents. Maddox Bros., Dept. 22, Mayfield, Ky.

TOBACCO—Kentucky's Natural Leaf Smoking or Chewing; mild or strong; aged in wood; rich and sweet; 5 lbs., \$2; second grade, 10 lbs., \$2.75. Postpaid. Waldrop Bros., Murray Ky.

CORN HARVESTER cuts and piles on harvester or winrows. Man and horse cuts and shocks equal Corn Binder. Sold in every state. Only \$28 with fodder tieing attachment. Testimonials and catalog FREE showing picture of Harvester. Process Harvester Co., Salina, Kansas.

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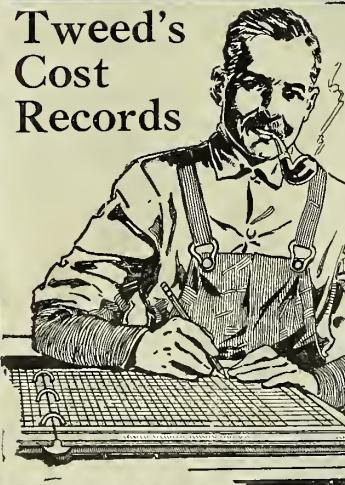
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